

## **REMARKS**

Claims 1-5, 7, and 9-12 are pending in this application. By this Amendment, claims 1-3, 7, 9 and 12 are amended, and claims 6 and 8 are canceled.

No new matter is added to the application by this Amendment. Support for the features added to claims 1, 9 and 12 is found in amended claim 3, canceled claim 6 and FIGS. 1 and 2 of the present specification, as originally filed.

### **I. Rejection Under 35 U.S.C. §102**

Claims 1-5, 8 and 10-12 were rejected under 35 U.S.C. §102(b) as allegedly being anticipated by U.S. Patent No. 6,210,522 to Singh et al. (hereinafter "Singh"). This rejection is respectfully traversed.

The first paragraph in section 4 on page 2 of the Office Action only identifies claims 1-5, 8, 10 and 11 as being rejection in view of Singh. However, the second paragraph in section 4 address claims 1 and 12. Applicants hereby assume that the first paragraph in section 4 includes a typographical error and that the Patent Office intended to include claim 12 in this rejection.

The Patent Office alleges that Singh teaches each and every feature of claims 1-5, 8 and 10-12. Applicants respectfully disagree with these allegations by the Patent Office.

In view of the cancelation of claim 8, this rejection is moot with respect to that claim.

Amended claims 1 and 12 incorporate the features of canceled claim 6, which was not rejected under 35 U.S.C. §102(b) as being anticipated by Singh. By failing to

reject claim 6 in view of Singh, the Patent Office acknowledges that Singh fails to disclose the features of amended claims 1 and 12.

Nowhere does Singh disclose bonding a chip module in a card body with an adhesive comprising at least two adhesive layers (i) and (ii), wherein the adhesive layer (i) exhibits high bonding compatibility with epoxy materials and/or polyimides, wherein the adhesive layer (ii) is based on polyurethanes and/or rubbers, wherein the adhesive layer (ii) bonds the adhesive layer (i) to the card body as recited in amended claim 1.

Singh fails to disclose an adhesive unit consisting of a card body, an adhesive film and a chip module, wherein the adhesive film comprises at least two adhesive layers (i) and (ii), wherein the adhesive layer (i) exhibits high bonding compatibility with epoxy materials and/or polyimides, wherein layer (ii) is based on polyurethanes and/or rubbers, wherein the adhesive layer (ii) is bonded to the adhesive layer (i) and the card body as required by amended claim 12

With respect to claims 10 and 11, the Patent Office alleges that Singh illustrates, in FIG. 3, an additional carrier layer 54 for holding the chip 16 which reads on the features of claims 10 and 11. Applicants respectfully disagree this allegation.

Claim 10 requires that between layer (i) and layer (ii) there are one or more further layers, and claim 11 depends from claim 10 and requires that the one or more further layers comprise one or more primer, barrier and/or carrier layers.

The Patent Office cites to reference number 54 of Singh as allegedly teach an additional carrier layer for holding the chip 16. Contrary to the Patent Office allegations, reference number 54 refers to a chip pocket whereby the silicon chip is arranged

adjacently to the passivated surface of the substrate by the adhesive bonding laminate (col. 5, lines 57-60 of Singh).

Nowhere does Singh disclose that the chip pocket 54 is between the first thermoplastic adhesive film 10 and the second thermoset adhesive film of adhesive bonding laminate 5 according to Singh. Thus, Singh also fails to disclose one or more further layers between layer (i) and layer (ii) as specifically defined in the present claims.

Because the features of independent claims 1 and 12 are neither taught nor suggested by Singh, Singh cannot anticipate, and would not have rendered obvious, the features specifically defined in claims 1 and 12 and the dependent claims of claim 1.

For at least these reasons, claims 1-5 and 10-12 are patentably distinct from and/or non-obvious in view of Singh. Reconsideration and withdrawal of the rejections of the claims under 35 U.S.C. §102(b) are respectfully requested.

## **II. Rejection Under 35 U.S.C. §103**

Claims 6, 7 and 9 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Singh in view of WO 2003/0085380 to Schuhmacher et al. (hereinafter "Schuhmacher"). This rejection is respectfully traversed.

The Patent Office acknowledges that Singh fails to teach or suggest the second layer being based on synthetic rubber (see page 3 of the Office Action). The Patent Office introduces Schuhmacher as allegedly remedying the deficiencies of Singh by teaching synthetic rubber based on polyurethane as an adhesive. The Patent Office

alleges that (1) it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to use specifically a synthetic rubber as the adhesive layer taught by Singh and (2) one would be motivated to use synthetic rubber for its known qualities of durability and low cost. Applicants respectfully disagree with these allegations by the Patent Office.

In view of the cancellation of claim 6, this rejection is moot. However, the features of canceled claim 6 are incorporated into amended claims 1, 9 and 12

Neither Singh nor Schuhmacher, taken singly or in combination, teaches or suggests an adhesive layer (i) which exhibits high bonding compatibility with epoxy materials and/or polyimides, wherein an adhesive layer (ii) is based on polyurethanes and/or rubbers, wherein the adhesive layer (ii) bonds the adhesive layer (i) to the card body (see claim 1) or wherein the adhesive layer (ii) is bonded to the adhesive layer (i) and the card body (see claim 12) as required by claims 1 and 12.

Singh and Schuhmacher, taken singly or in combination, fail to teach or suggest an adhesive layer (i) which exhibits high bonding compatibility with epoxy materials and/or polyimides, wherein layer (ii) is based on a heat-activatable system composed of an elastomer and at least one reactive resin, wherein the elastomer is composed of at least one of rubbers, polychloroisoprenes, polyacrylates, nitrile rubbers and/or epoxidized nitrile rubbers and/or the reactive resin is composed of at least one of phenolic resins, epoxy resins, melamine resins and/or resins with isocyanate function, wherein the adhesive layer (ii) bonds the adhesive layer (i) to the card body as required by amended claim 9.

Singh teaches an adhesive bonding laminate having a first thermoplastic adhesive film capable of adhesively bonding to an epoxy coating and adhesively bonded to a second thermoset adhesive film capable of adhesively bonding to a passivated surface of a substrate (see col. 2, lines 51-55 of Singh).

As set forth above, Singh does not teach or suggest the second thermoset adhesive film of the adhesive laminate being based on synthetic rubber. The Patent Office alleges that paragraph [0006] of Schuhmacher discloses adhesives, such as synthetic rubber which is based on a polyurethane and that one of ordinary skill in the art would be motivated to use synthetic rubber for its known qualities of durability and low cost.

Schuhmacher is directed a cholesteric layered material having the layer sequence  $A^1/B/A^2$ , where  $A^1$  and  $A^2$  are identical or different and each include at least one cholesteric layer, and B is at least one interlayer separating the layers  $A^1$  and  $A^2$  from one another (see paragraph [0002] of Schuhmacher). The layer B is an adhesive layer (see paragraph [0004] of Schuhmacher). Suitable adhesive additives include natural rubber, synthetic rubber based on polyvinyl acetate or polyurethane (see paragraph [0006] of Schuhmacher).

Neither Singh nor Schuhmacher, taken singly or in combination, teach or suggest that Schuhmacher's adhesive layer B is capable of adhesively bonding to the passivated surface of the substrate according to Singh. Additionally, Singh and/or Schuhmacher, taken singly or in combination, does not teach or suggest that Schuhmacher's adhesive layer B (consisting of natural rubber, synthetic rubber based

on polyvinyl acetate or polyurethane) bonds an adhesive layer (i) exhibiting high bonding compatibility with epoxy materials and/or polyimides to a card body as required by claims 1 and 9 or bonds to such adhesive layer (i) and the card body as required by claim 12.

The layer materials and pigments according to Schuhmacher have the following layer sequence: 1) if desired, at least one release layer; 2) at least one cholesteric color-effect layer ( $A^1$ ); 3) at least one adhesive layer (B), which, if desired, fully or partially absorbs transmitted light; 4) at least one further cholesteric color-effect layer ( $A^2$ ); and 5) if desired, at least one release layer (see paragraph [0119]-[0124] of Schuhmacher). The release layer may comprise polyolefin compounds or silicone-containing compounds (see paragraph [0127] of Schuhmacher).

Schuhmacher does not teach or suggest that either cholesteric color-effect layer  $A^1$  or  $A^2$  is an adhesive layer which exhibits high bonding compatibility with epoxy materials and/or polyimides as required by claims 1, 9 and 12. As a result, Schuhmacher's adhesive layer B is not capable of bonding an adhesive layer (which exhibits high bonding compatibility with epoxy materials and/or polyimides) to the card body as required by claims 1 and 9. Nor is Schuhmacher's adhesive layer B capable of bonding to the adhesive layer (which exhibits high bonding compatibility with epoxy materials and/or polyimides) and the card body as required by claim 12.

At best, Schuhmacher discloses that layer supports may be made of thermoplastic films made from polyesters, such as polyethylene terephthalate or polyethylene naphthalate, and polyolefins, cellulose triacetate, polycarbonates,

polyamides, polyimides, polyamidoimides, polysulfones, aramids or aromatic polyamides (see paragraph [0125] of Schuhmacher). However, Schuhmacher teaches that the second layer support is then removed from layer A<sup>2</sup> and the multilayer structure with the layer sequence A<sup>1</sup>/B/A<sup>2</sup> can be detached from the first layer support and is then ready for use (see paragraphs [0133] and [0134] of Schuhmacher).

If the layer supports can be removed and/or detached from cholesteric layers A<sup>1</sup> and/or A<sup>2</sup>, then neither layer A<sup>1</sup> nor layer A<sup>2</sup> of Schuhmacher exhibits high bonding compatibility with epoxy materials and/or polyimides as required by claims 1, 9, and 12. Thus, Singh and Schuhmacher fail to teach or suggest that an adhesive layer (ii) as specifically defined in claims 1, 9 and 12 bonds an adhesive layer (i) (which exhibits high bonding compatibility with epoxy materials and/or polyimides) to the card body as required by claims 1 and 9 is bonded to an adhesive layer (i) (which exhibits high bonding compatibility with epoxy materials and/or polyimides) and the card body as required by claim 12. Moreover, one of ordinary skill in the art would not substitute Schuhmacher's adhesive layer B for Singh's thermoset film because neither Singh nor Schuhmacher, taken singly or in combination, teaches or suggests that Schuhmacher's adhesive layer B is capable of bonding to Singh's thermoplastic film (capable of adhesively bonding to an epoxy coating) and/or Singh's passivated surface of the substrate.

Because these features of independent claims 1, 9 and 12 are not taught or suggested by Singh and Schuhmacher, taken singly or in combination, these references

would not have rendered the features of claims 1, 9 and 12 obvious to one of ordinary skill in the art.

For at least these reasons, claims 1, 7, 9 and 12 are patentable over Singh and Schuhmacher. Thus, withdrawal of the rejection under 35 U.S.C. §103(a) is respectfully requested.

### **III. Conclusion**

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-5, 7 and 9-12 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Early and favorable action is earnestly solicited.

### **CONDITIONAL PETITION FOR EXTENSION OF TIME**

If entry and consideration of the amendments above requires an extension of time, Applicants respectfully request that this be considered a petition therefor. The Commissioner is authorized to charge any fee(s) due in this connection to Deposit Account No. 14-1263.



**ADDITIONAL FEE**

Please charge any insufficiency of fees, or credit any excess, to Deposit Account  
No. 14-1263.

Respectfully submitted,  
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